

CLAIMS

1. A scroll fluid machine comprising at least a first scroll (21) having a spiral wrap (24) formed on an end plate (23) and a second scroll (22) having a spiral wrap (24) formed on an end plate (23), wherein

an adjustment member (4a) is provided to adjust the amount of space between the wrap (24) of one of the scrolls (21 or 22) and the end plate (23) of the other scroll (22 or 21) and

the adjustment member (4a) includes a deformable element (40) which changes its shape according to external input.

2. The scroll fluid machine of claim 1, wherein the deformable element (40) is formed at the tip of the wrap (24) and changes its shape along the height of the wrap (24) to adjust the amount of the space.

3. The scroll fluid machine of claim 1, wherein the deformable element (40) is formed at the tip of the wrap (24) to extend over the spiral of the wrap (24) and

the deformable element (40) changes its length along the spiral of the wrap (24) to adjust the amount of the space.

4. The scroll fluid machine of claim 3, wherein two or more deformable elements (40) are formed along the spiral of the wrap (24).

5. The scroll fluid machine of claim 1, wherein the deformable element (40) adjusts the amount of the space to vary a capacity.

6. The scroll fluid machine of claim 1, wherein
the deformable element (40) adjusts the amount of the space to vary an angle of
rotation at which fluid discharge begins.

5

7. The scroll fluid machine of claim 1, wherein
a working chamber (2a) is defined between the first scroll (21) and the second
scroll (22) and a discharge port (2b) for discharging fluid from the working chamber (2a)
is provided with a discharge valve and

10 the wrap (24) is configured such that the capacity of the working chamber (2a)
becomes substantially zero after the discharge is terminated.

8. The scroll fluid machine of claim 1, wherein
the deformable element (40) is provided at the tip of the wrap (24) and also
15 functions as a seal between the end plate (23) and the wrap (24).

9. The scroll fluid machine of claim 1, wherein
the deformable element (40) is disposed in a recess (25) formed at the tip of the
wrap (24) and
20 the recess (25) is formed such that a wall of the recess (25) including an inner
circumference surface of the wrap (24) has a thickness different from that of a wall of the
recess (25) including an outer circumference surface of the wrap (24).

10. The scroll fluid machine of claim 1, wherein
25 the first scroll (21) is a stationary scroll and the second scroll (22) is a moving
scroll and
only the first scroll (21) is provided with the deformable element (40).

11. The scroll fluid machine of claim 1, wherein the deformable element (40) is made of a polymer actuator.